FIG. 1

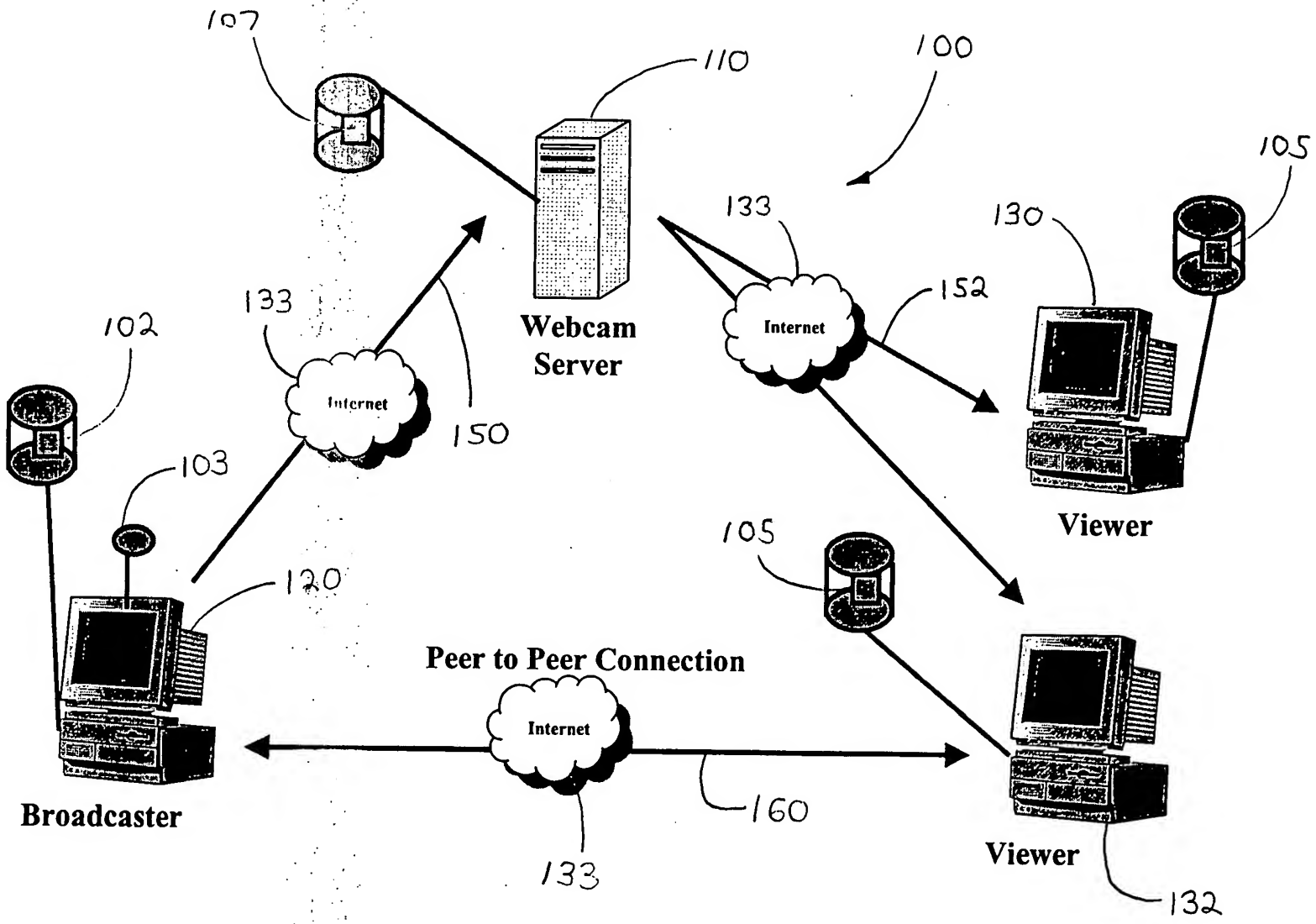
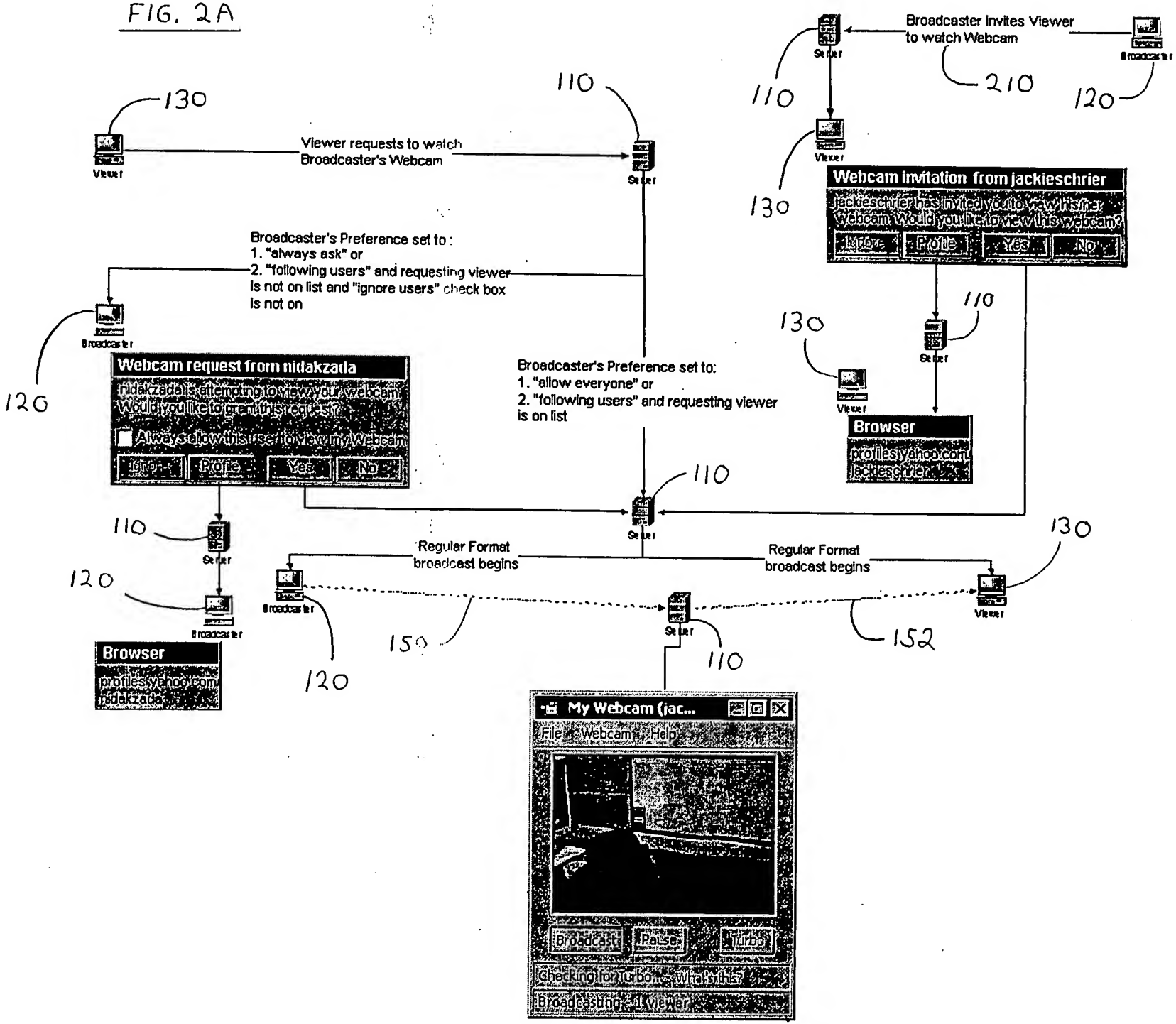

107
110
100
105
133
130
102
133
Internet
152
Webcam
Server
Internet
150
103
105
120
Viewer
Peer to Peer Connection
Internet
160
Broadcaster
133
Viewer
132

FIG. 2A


130
Viewer requests to watch Broadcaster's Webcam
110
Broadcaster invites Viewer to watch Webcam
210
120
Webcam invitation from jackieschrier
jackieschrier has invited you to view his/her webcam. Would you like to view this webcam?
Ignore
Profile
Yes
No
Broadcaster's Preference set to :
1. "always ask" or
2. "following users" and requesting viewer is not on list and "ignore users" check box is not on
Webcam request from nidakzada
nidakzada is attempting to view your webcam. Would you like to grant this request?
Always allow this user to view my Webcam
Ignore
Profile
Yes
No
Broadcaster's Preference set to:
1. "allow everyone" or
2. "following users" and requesting viewer is on list
Browser
profiles.yahoo.com/jackieschrier
Browser
profiles.yahoo.com/nidakzada
Regular Format broadcast begins
Regular Format broadcast begins
150
152
My Webcam (jac...
File Webcam Help
Broadcast
Pause
Turbo
Checking for Turbo... What's this?
Broadcasting: 1 viewer

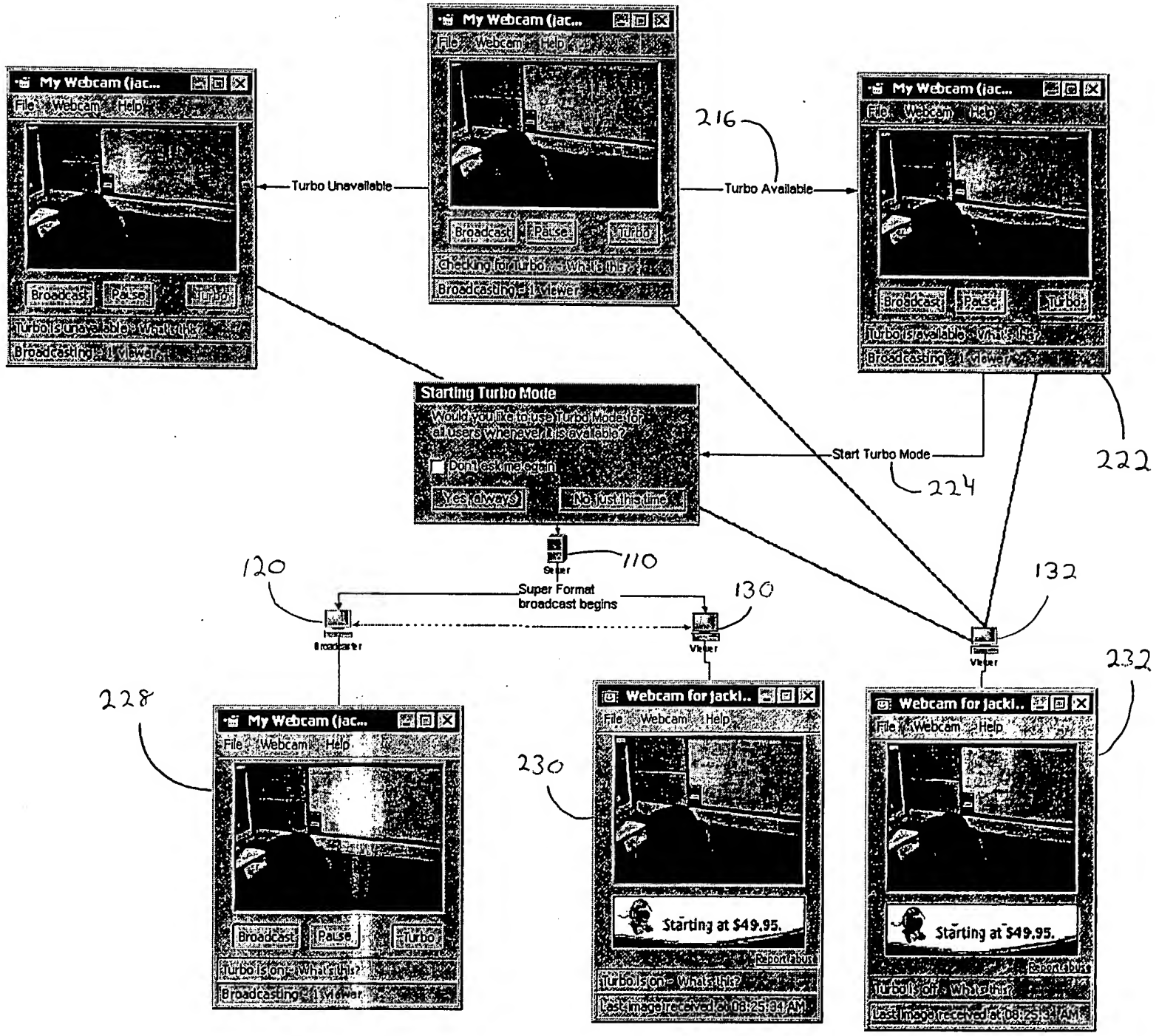

My Webcam (jac...
File Webcam Help
Broadcast
Pause
Turbo
Turbo Unavailable
Turbo Available
216
Starting Turbo Mode
Would you like to use Turbo Mode for all users whenever it is available?
Don't ask me again
Yes, always
No, just this time
Start Turbo Mode
224
222
110
120
130
132
Super Format broadcast begins
Broadcaster
Viewer
228
230
232
Webcam for Jackl..
Starting at $49.95.
Report abuse
Last image received at 08:25:34 AM

FIG. 2B

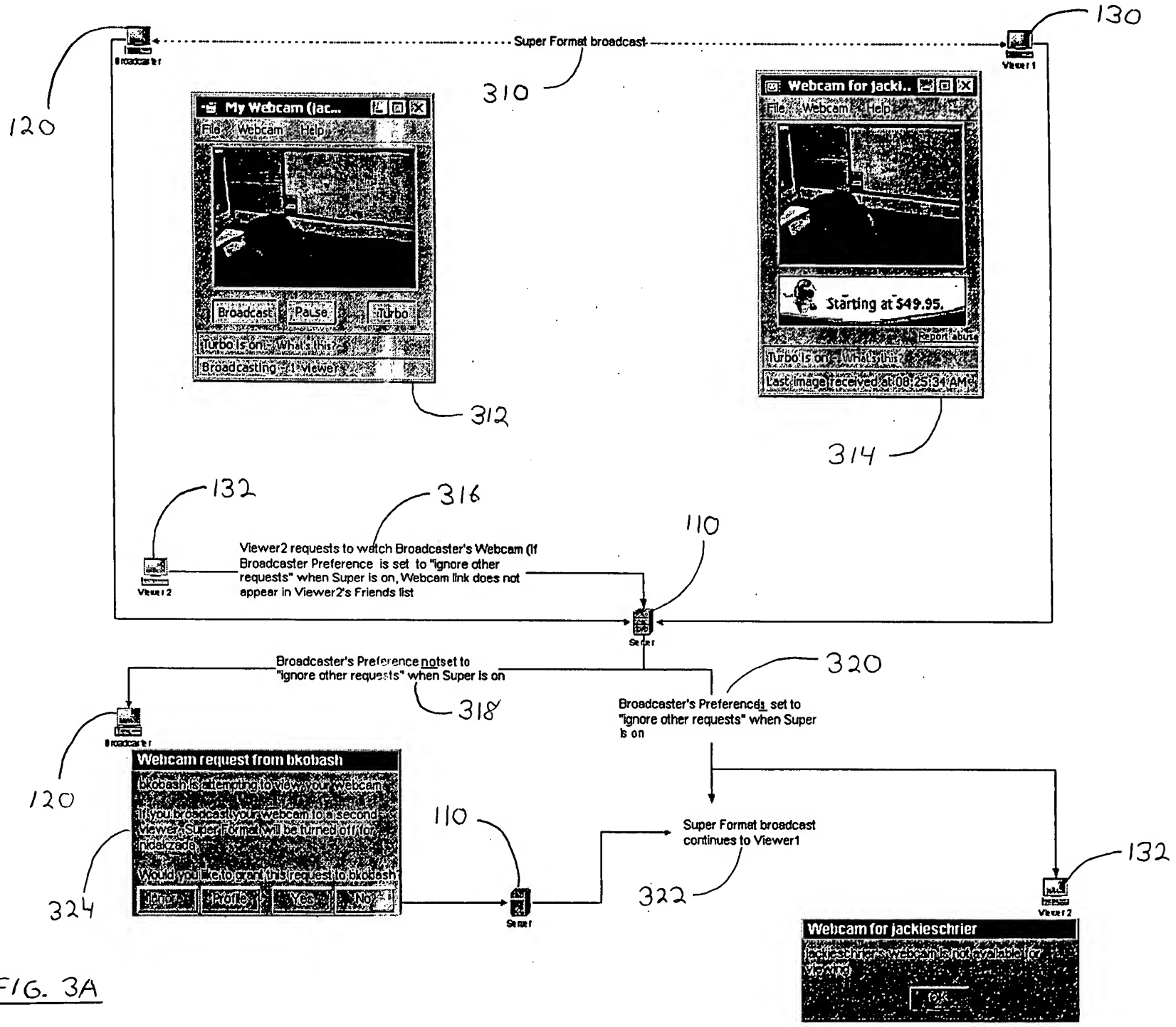

120
Broadcaster
Super Format broadcast
310
130
Viewer 1
My Webcam (jac...
File Webcam Help
Broadcast
Pause
Turbo
Turbo is on What's this?
Broadcasting 1 viewer
312
Webcam for jacki..
File Webcam Help
Starting at $49.95.
Report abuse
Turbo is on What's this?
Last image received at 08:25:34 AM
314
132
Viewer 2
316
Viewer2 requests to watch Broadcaster's Webcam (If Broadcaster Preference is set to "ignore other requests" when Super is on, Webcam link does not appear in Viewer2's Friends list
110
Server
Broadcaster's Preference notset to "ignore other requests" when Super is on
318
320
Broadcaster's Preferences set to "ignore other requests" when Super is on
120
Broadcaster
Webcam request from bkobash
bkobash is attempting to view your webcam.
If you broadcast your webcam to a second viewer, Super Format will be turned off for bkobash.
Would you like to grant this request to bkobash?
Yes
No
324
110
Server
Super Format broadcast continues to Viewer1
322
132
Viewer 2
Webcam for jackieschrier
jackieschrier's webcam is not available for viewing.
OK

FIG. 3A

FIG. 3B

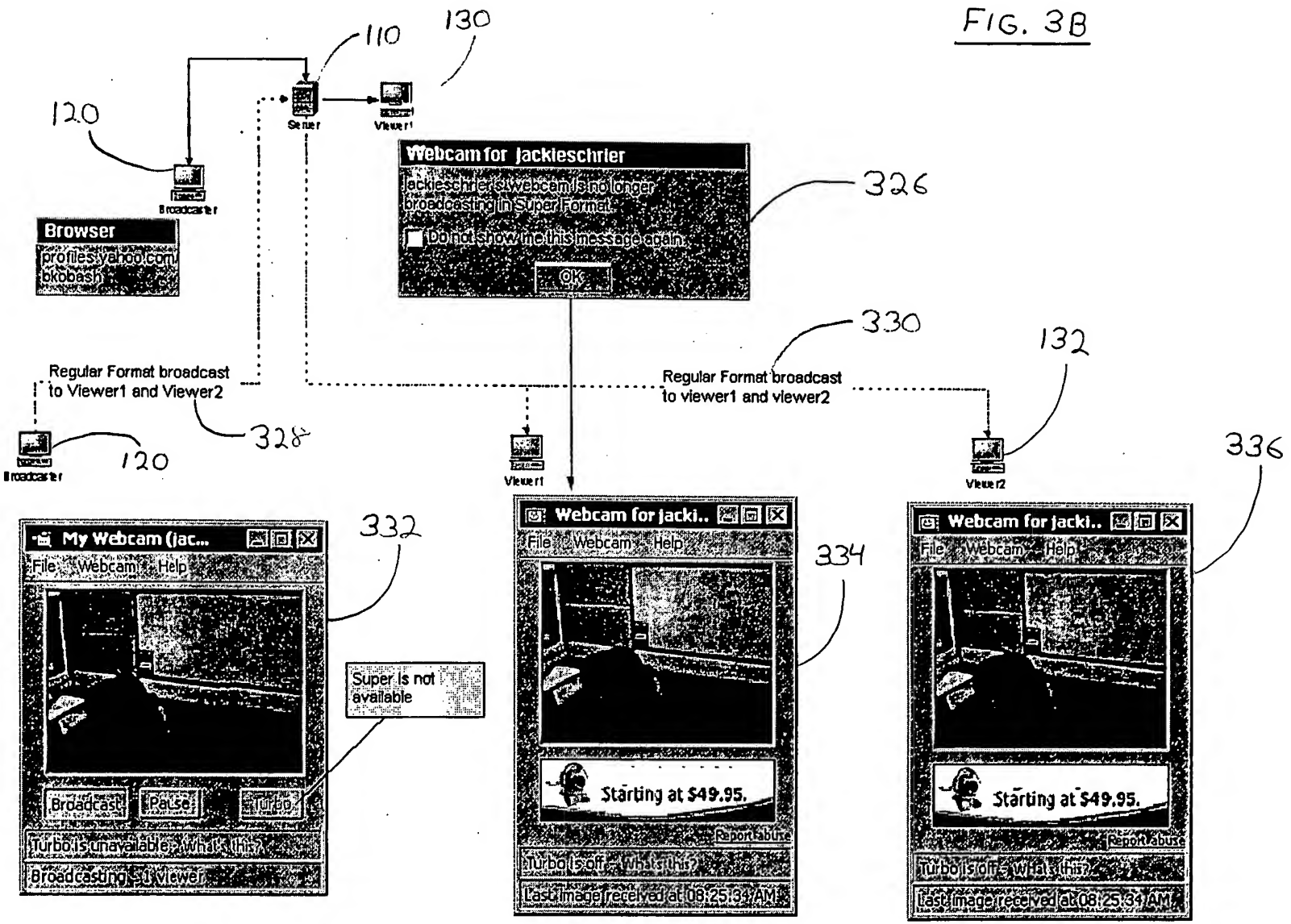
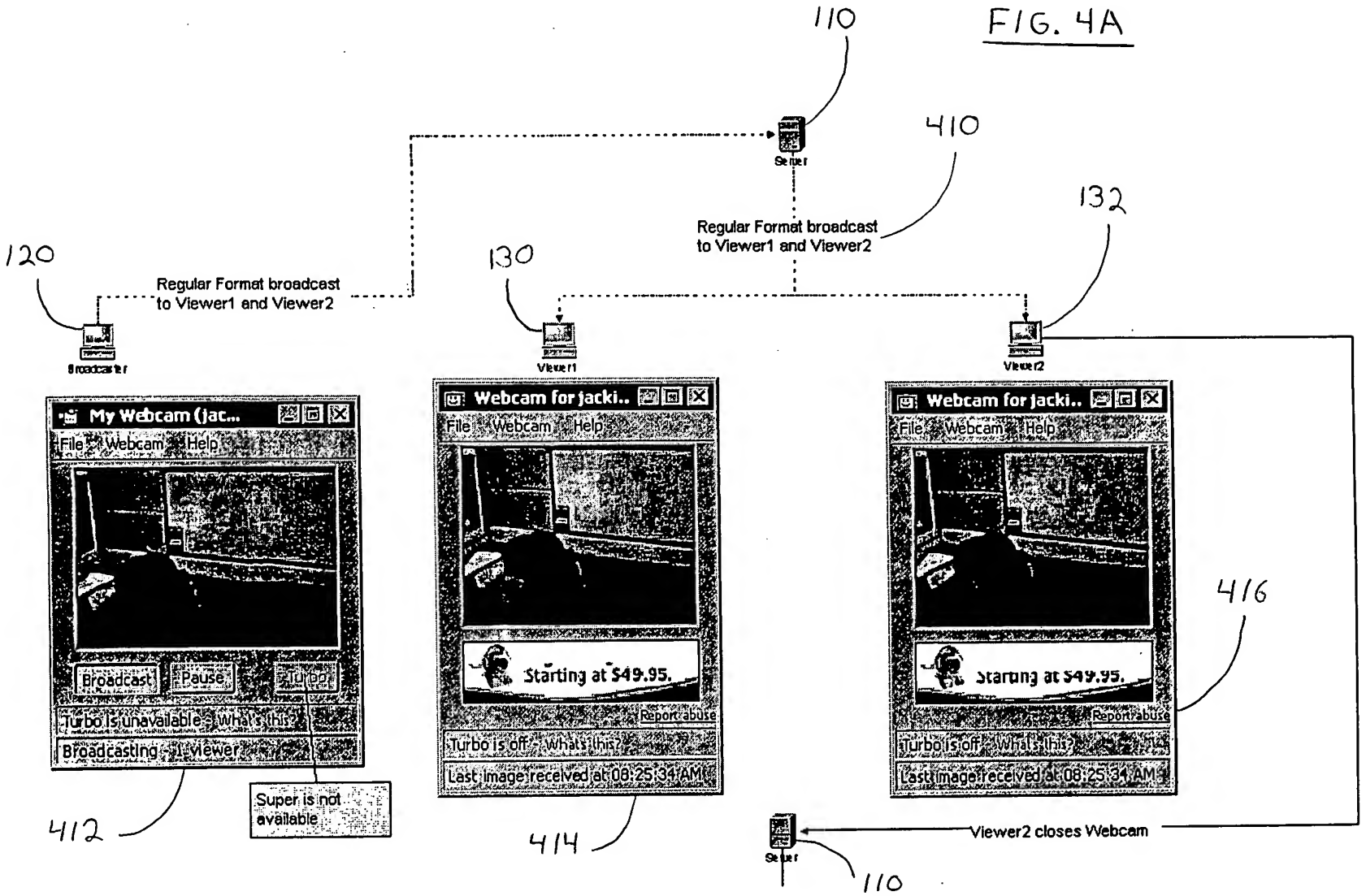

110
130
120
Server
Viewer1
Broadcaster
Browser
profiles.yahoo.com
bkobash
Webcam for jackieschrier
jackieschrier's webcam is no longer broadcasting in Super Format.
Do not show me this message again.
OK
326
330
132
Regular Format broadcast to Viewer1 and Viewer2
328
Regular Format broadcast to viewer1 and viewer2
120
Broadcaster
Viewer1
Viewer2
336
My Webcam (jac...
File Webcam Help
332
Broadcast
Pause
Turbo
Turbo is unavailable What's this?
Broadcasting 0 viewer
Super is not available
Webcam for jacki..
File Webcam Help
334
Starting at $49.95.
Report Abuse
Turbo is off What's this?
Last image received at 08:25:34 AM
Webcam for jacki..
File Webcam Help
Starting at $49.95.
Report Abuse
Turbo is off What's this?
Last image received at 08:25:34 AM

FIG. 4A


110
410
132
120
130
Regular Format broadcast
to Viewer1 and Viewer2
Regular Format broadcast
to Viewer1 and Viewer2
Server
Broadcaster
Viewer1
Viewer2
My Webcam (jac...
File Webcam Help
Broadcast
Pause
Turbo
Turbo is unavailable What's this
Broadcasting 1 viewer
Super is not available
412
Webcam for jacki..
File Webcam Help
Starting at $49.95.
Report abuse
Turbo is off What's this
Last image received at 08:25:34 AM
414
Webcam for jacki..
File Webcam Help
Starting at $49.95.
Report abuse
Turbo is off What's this
Last image received at 08:25:34 AM
416
Viewer2 closes Webcam
Server
110

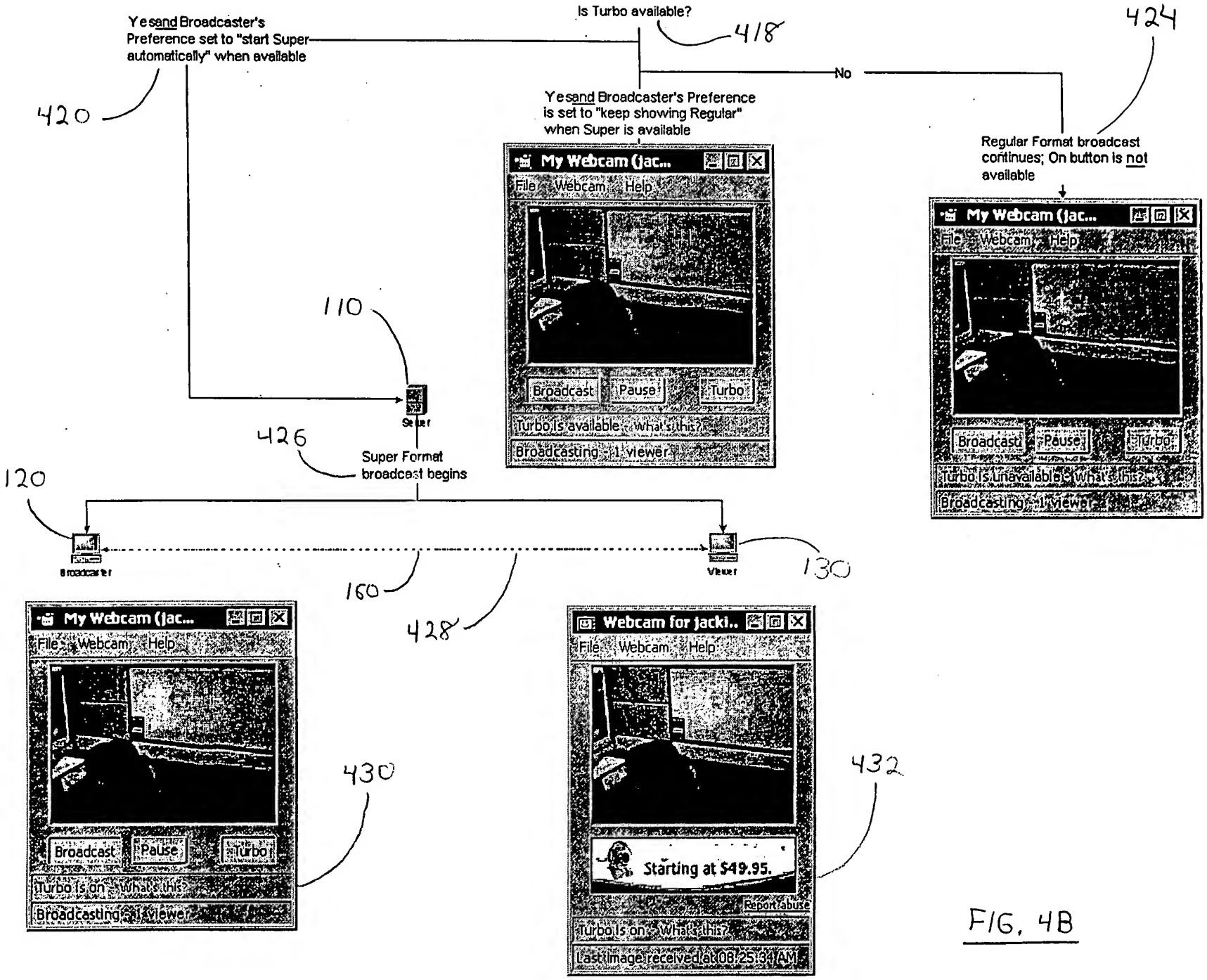

Is Turbo available?
418
424
Yesand Broadcaster's Preference set to "start Super automatically" when available
420
No
Yesand Broadcaster's Preference is set to "keep showing Regular" when Super is available
Regular Format broadcast continues; On button is not available
My Webcam (jac...
File Webcam Help
Broadcast Pause Turbo
Turbo is available What's this?
Broadcasting 1 viewer
110
Server
426
Super Format broadcast begins
120
Broadcaster
160
Viewer
130
428
Turbo is on What's this?
430
Webcam for jacki..
Starting at $49.95.
Report abuse
Last image received at 08:25:34 AM
432

FIG. 4B

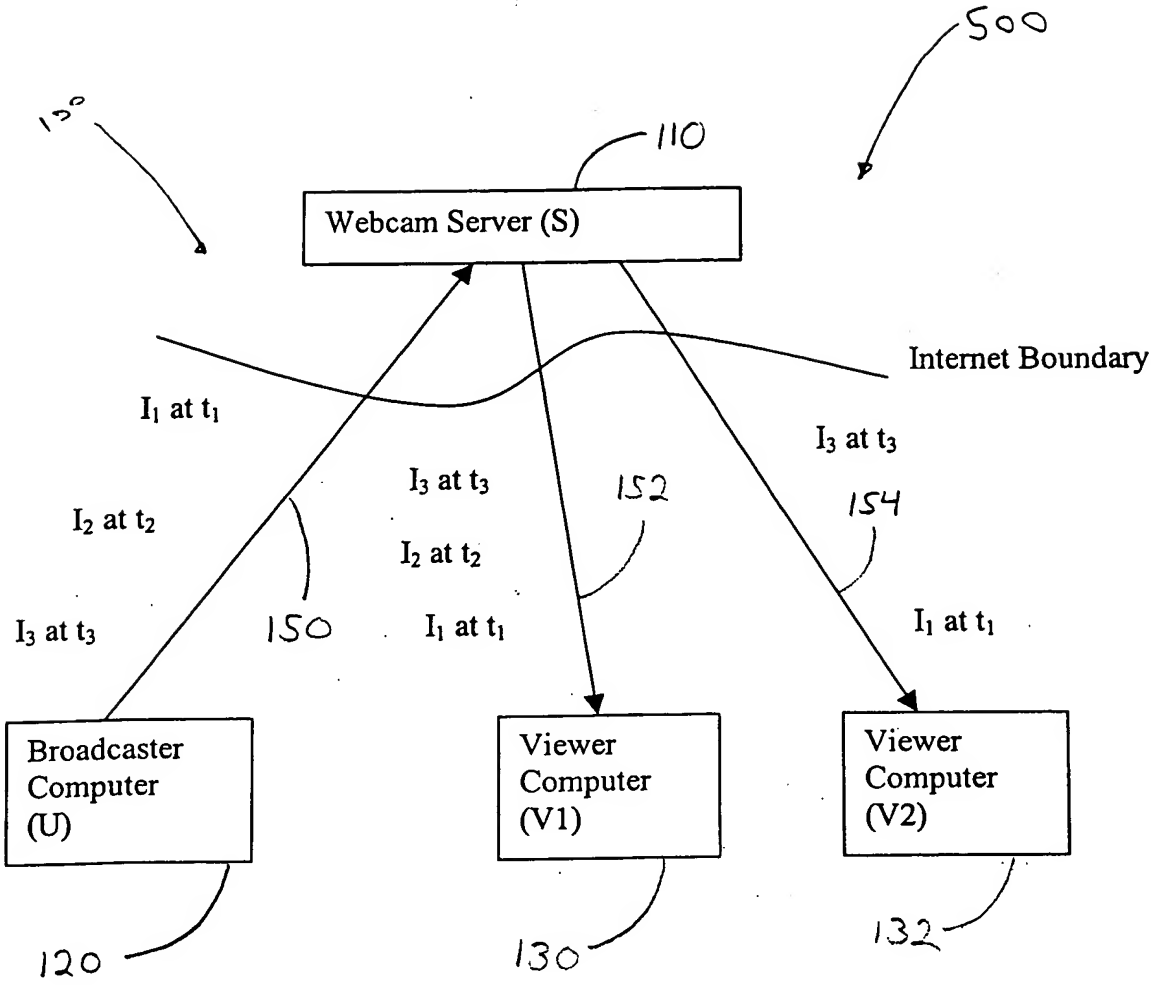
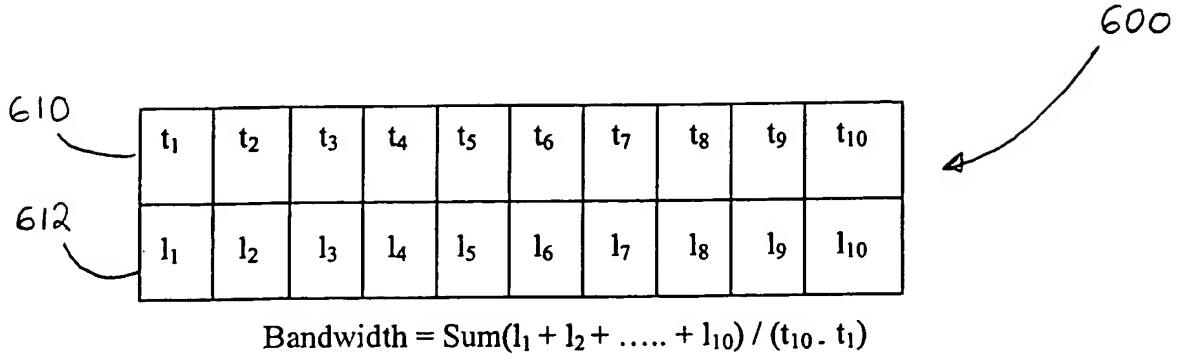

500
110
Webcam Server (S)
Internet Boundary
I_1 at t_1
I_2 at t_2
I_3 at t_3
150
I_3 at t_3
I_2 at t_2
I_1 at t_1
152
I_3 at t_3
154
I_1 at t_1
Broadcaster Computer (U)
Viewer Computer (V1)
Viewer Computer (V2)
120
130
132

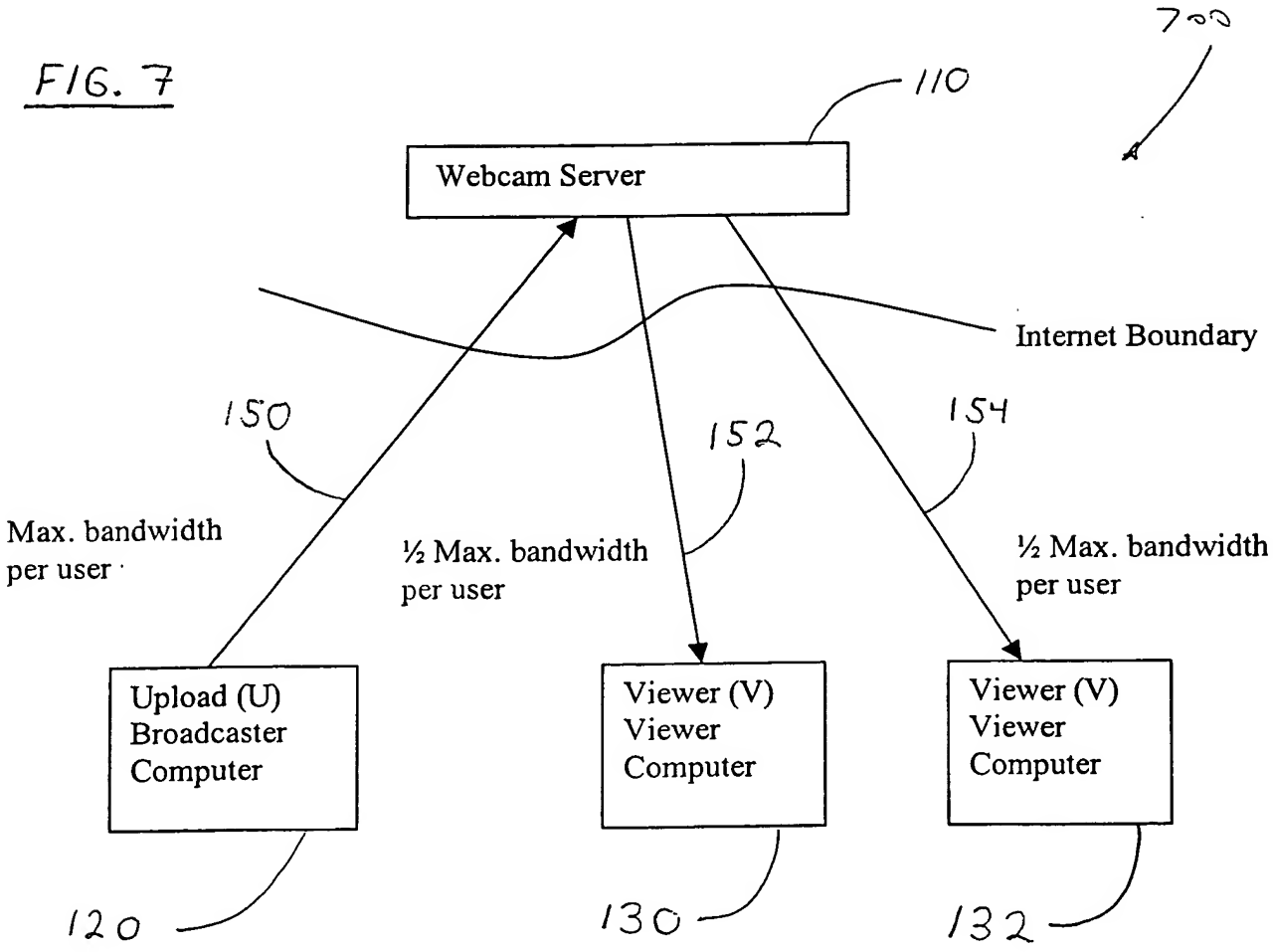
FIG. 5

FIG. 6



Bandwidth = $\text{Sum}(l_1 + l_2 + \ldots + l_{10}) / (t_{10} - t_1)$

FIG. 7



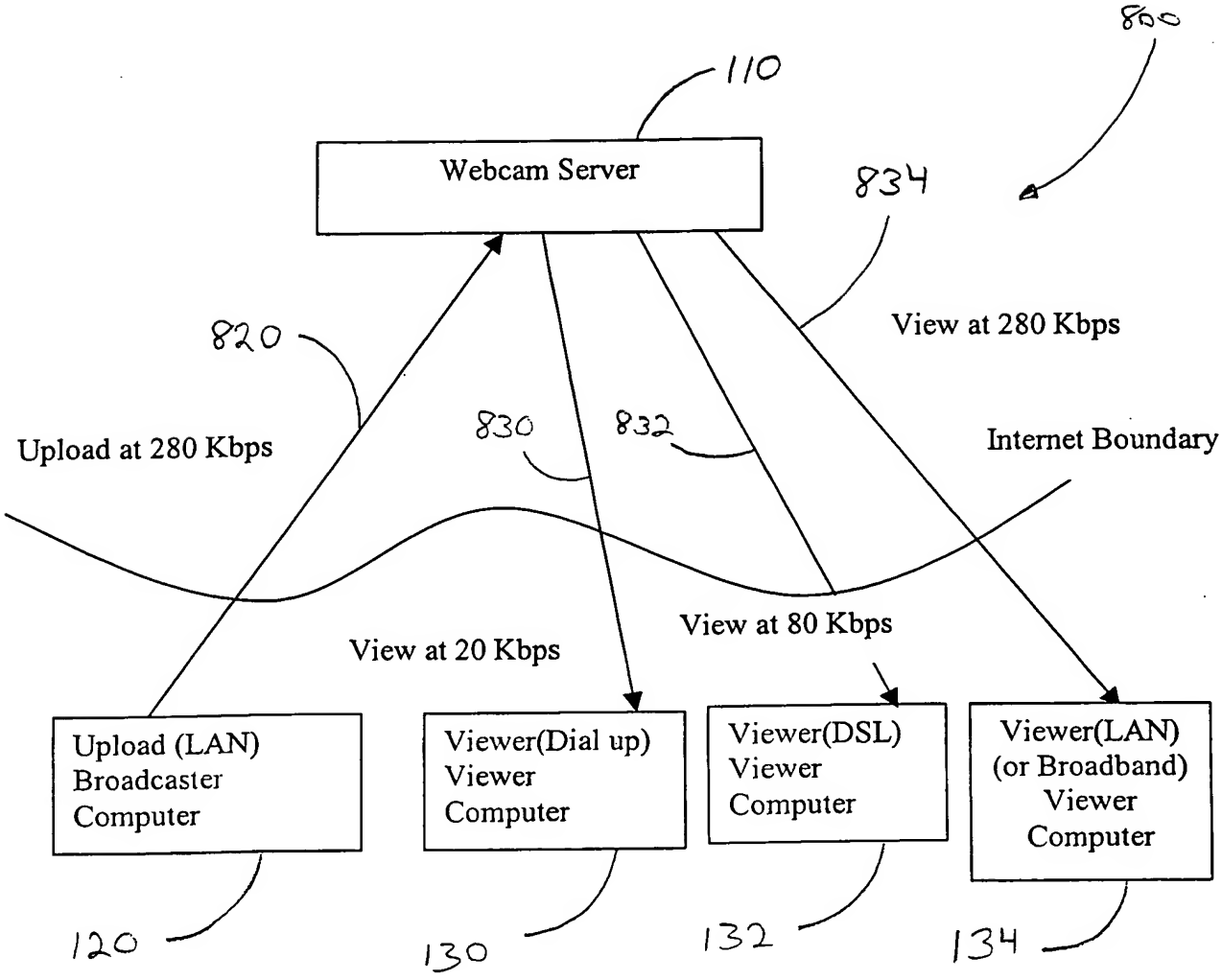

800
110
Webcam Server
834
View at 280 Kbps
820
Upload at 280 Kbps
830
832
Internet Boundary
View at 80 Kbps
View at 20 Kbps
Upload (LAN) Broadcaster Computer
Viewer(Dial up) Viewer Computer
Viewer(DSL) Viewer Computer
Viewer(LAN) (or Broadband) Viewer Computer
120
130
132
134

FIG. 8

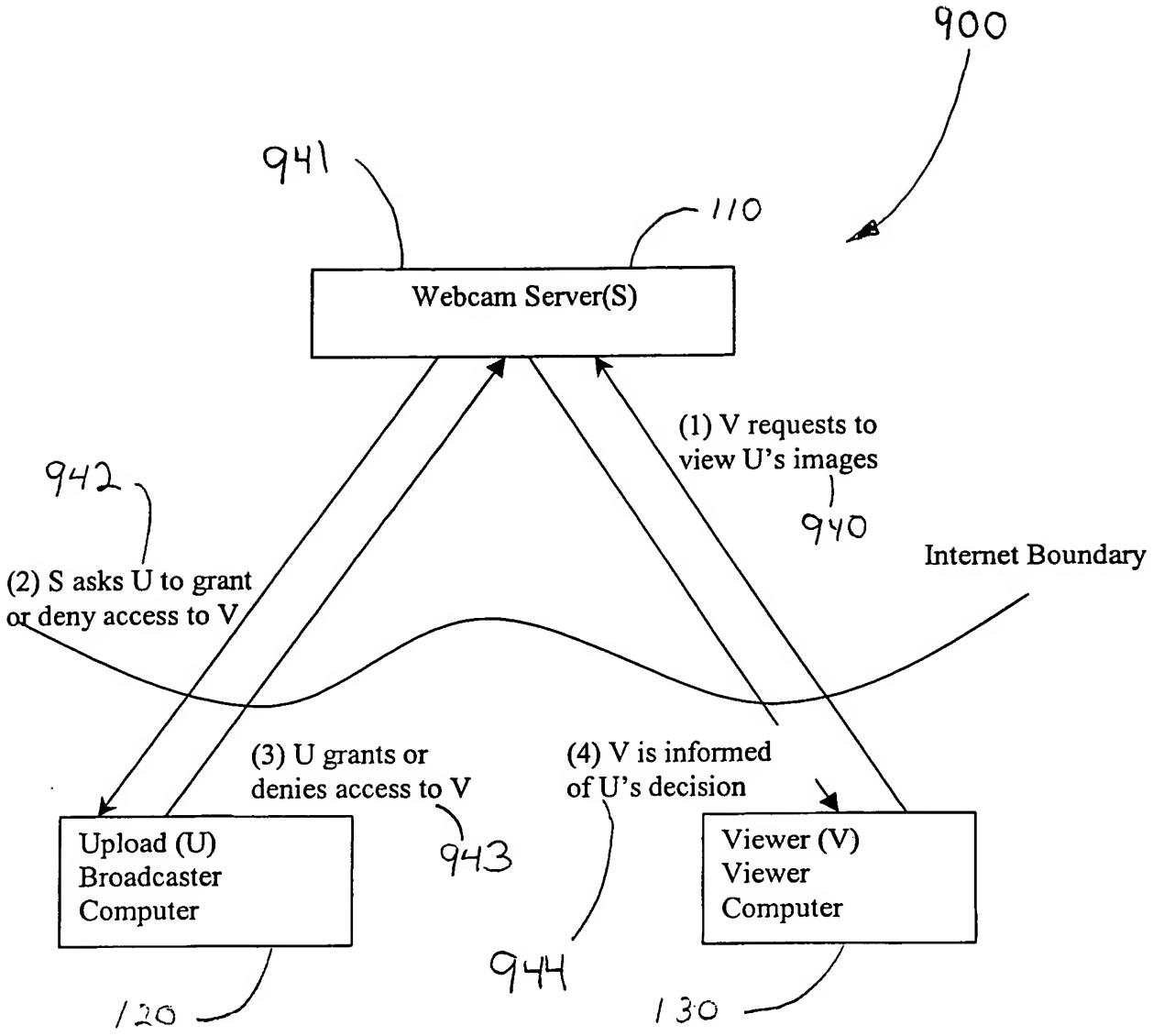

900
941
110
Webcam Server(S)
(1) V requests to view U's images
940
942
(2) S asks U to grant or deny access to V
Internet Boundary
(3) U grants or denies access to V
943
(4) V is informed of U's decision
944
Upload (U) Broadcaster Computer
120
Viewer (V) Viewer Computer
130

FIG. 9

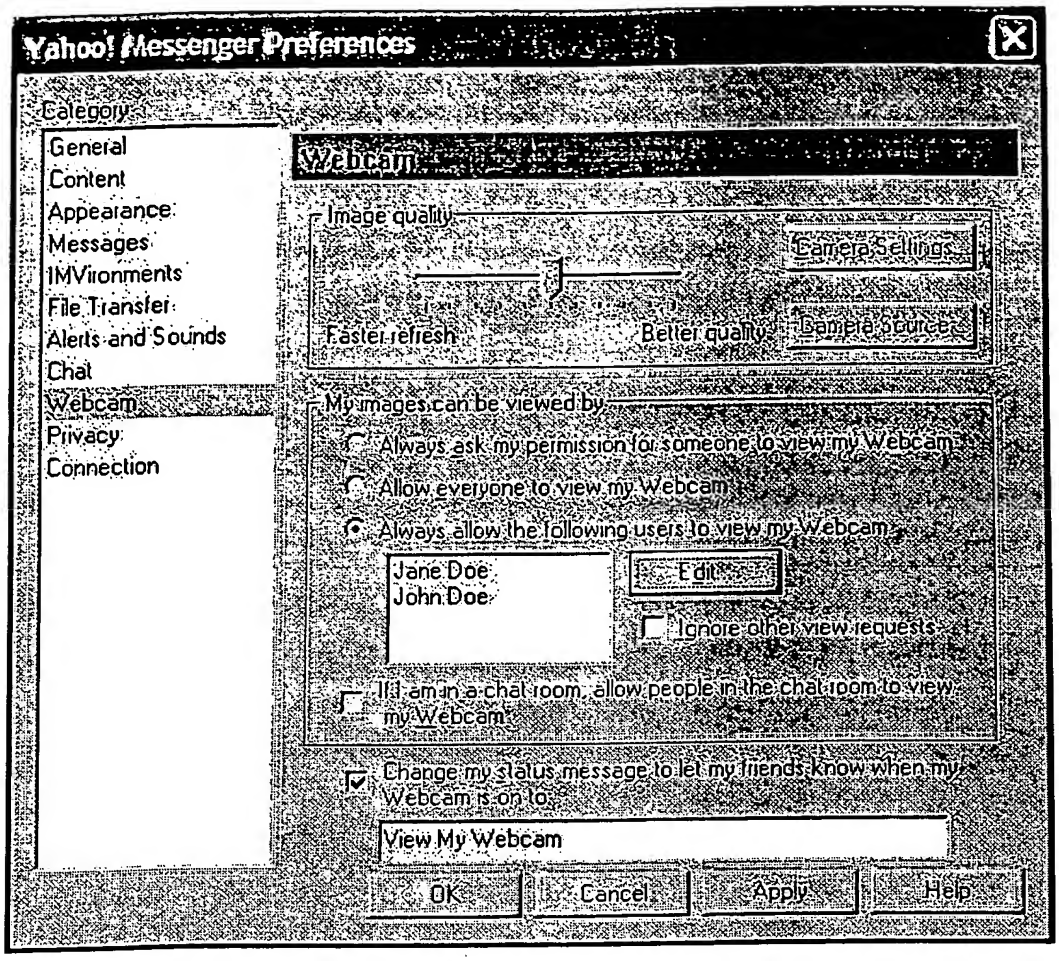

Yahoo! Messenger Preferences
Category
General
Content
Appearance
Messages
IMVironments
File Transfer
Alerts and Sounds
Chat
Webcam
Privacy
Connection
Webcam
Image quality
Faster refresh
Better quality
Camera Settings
Capture Source
My images can be viewed by
Always ask my permission for someone to view my Webcam
Allow everyone to view my Webcam
Always allow the following users to view my Webcam
Jane Doe
John Doe
Edit
Ignore other view requests
If I am in a chat room, allow people in the chat room to view my Webcam
Change my status message to let my friends know when my Webcam is on to:
View My Webcam
OK
Cancel
Apply
Help
1000

FIG. 10

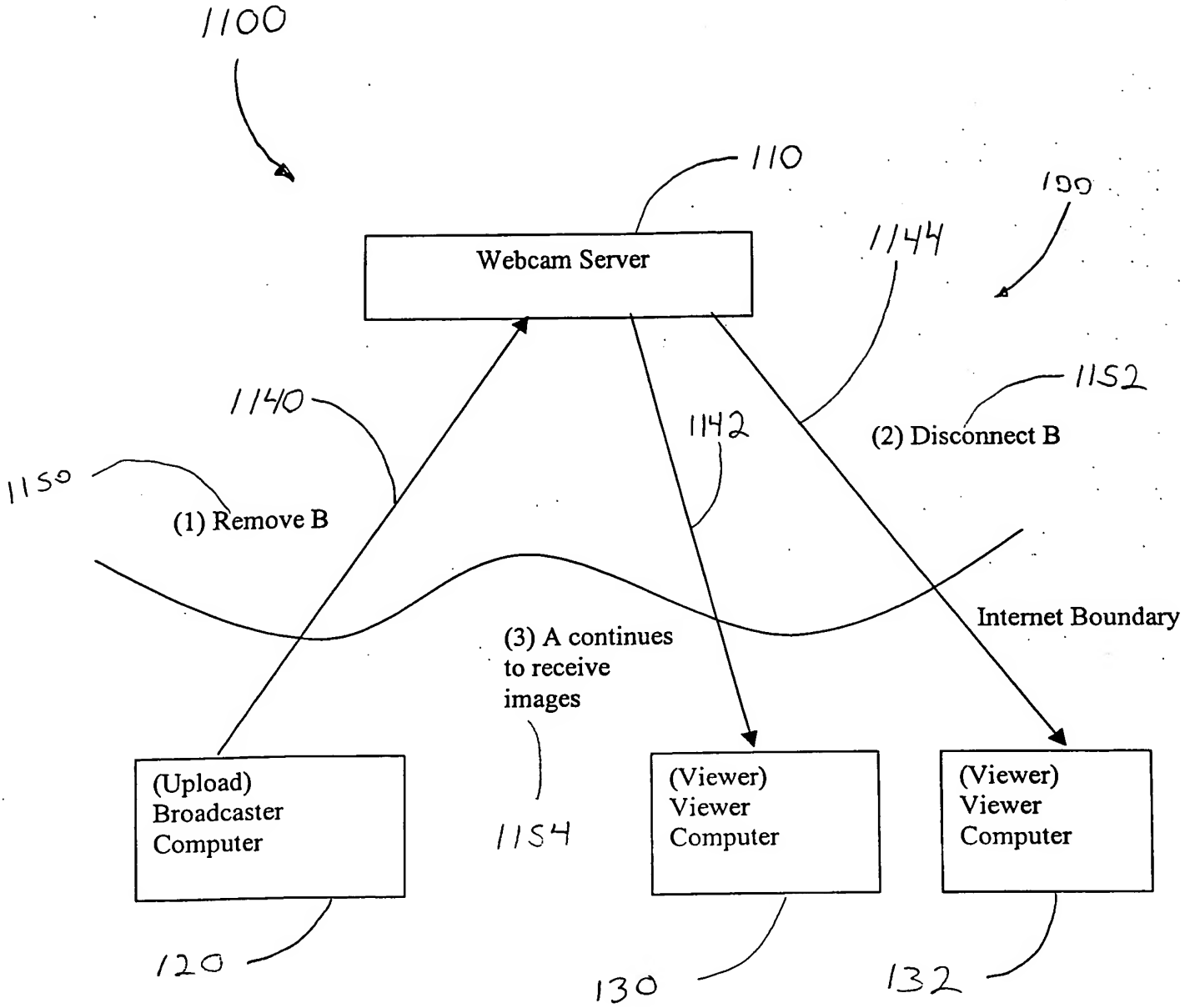

1100
110
Webcam Server
190
1144
1140
1142
1152
(2) Disconnect B
1150
(1) Remove B
Internet Boundary
(3) A continues to receive images
1154
(Upload) Broadcaster Computer
(Viewer) Viewer Computer
(Viewer) Viewer Computer
120
130
132

FIG. 11

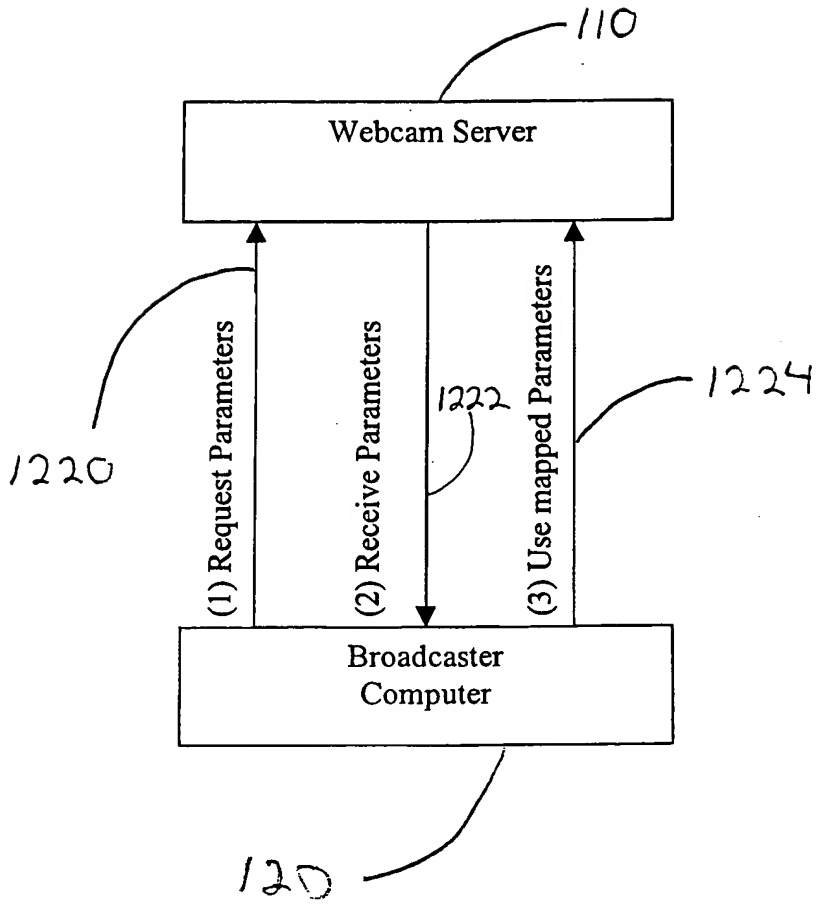

110
Webcam Server
1220
(1) Request Parameters
(2) Receive Parameters
1222
(3) Use mapped Parameters
1224
Broadcaster Computer
120

FIG. 12

FIG. 13A

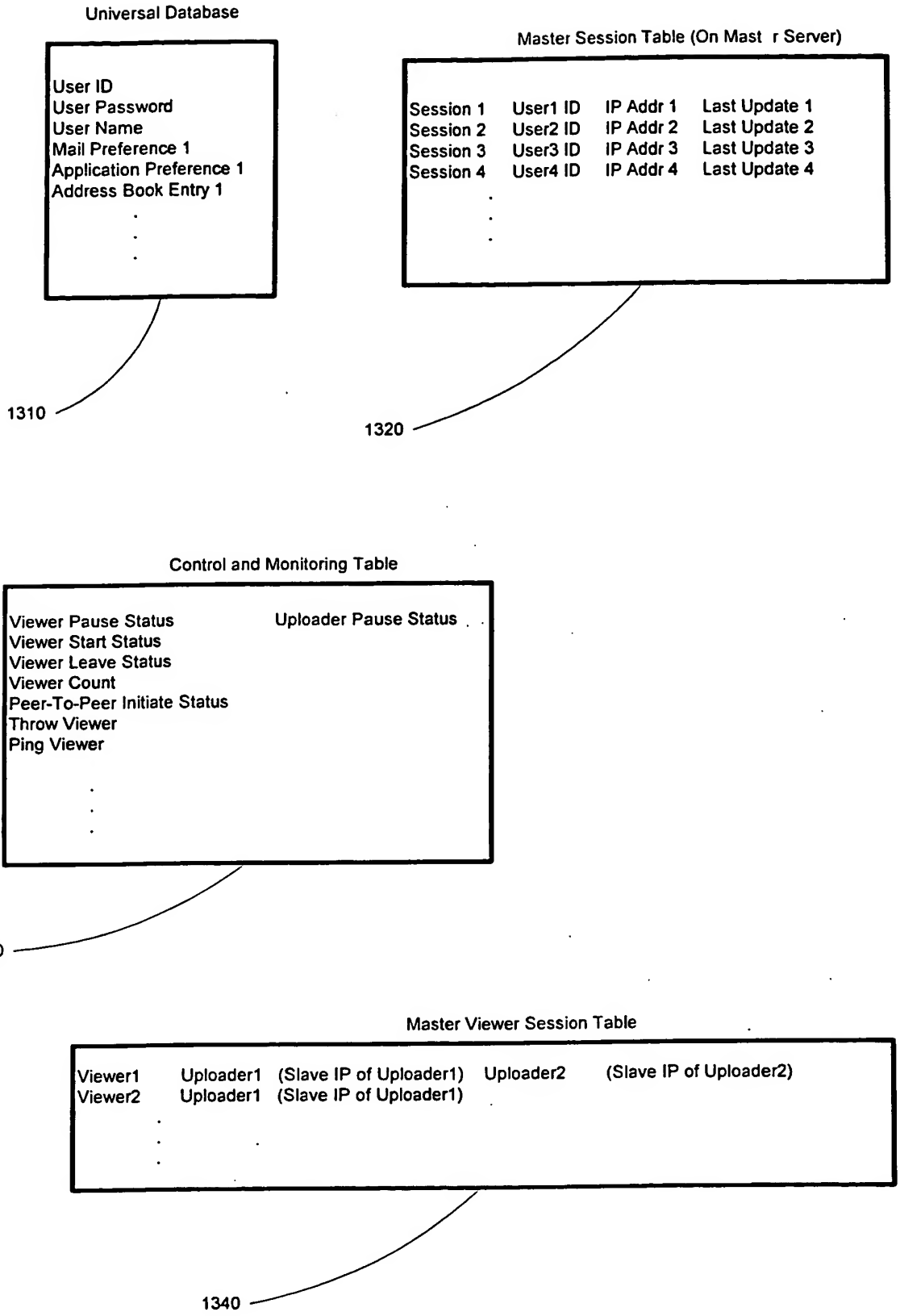
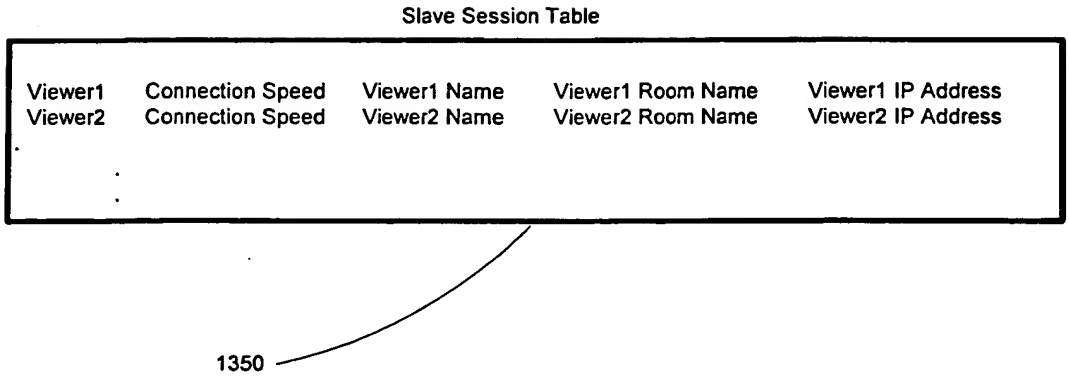
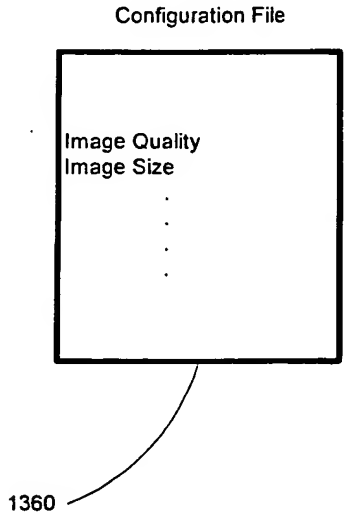

Universal Database
User ID
User Password
User Name
Mail Preference 1
Application Preference 1
Address Book Entry 1
1310
Master Session Table (On Mast r Server)
Session 1 User1 ID IP Addr 1 Last Update 1
Session 2 User2 ID IP Addr 2 Last Update 2
Session 3 User3 ID IP Addr 3 Last Update 3
Session 4 User4 ID IP Addr 4 Last Update 4
1320
Control and Monitoring Table
Viewer Pause Status
Uploader Pause Status
Viewer Start Status
Viewer Leave Status
Viewer Count
Peer-To-Peer Initiate Status
Throw Viewer
Ping Viewer
1330
Master Viewer Session Table
Viewer1 Uploader1 (Slave IP of Uploader1) Uploader2 (Slave IP of Uploader2)
Viewer2 Uploader1 (Slave IP of Uploader1)
1340

FIG. 13B


Slave Session Table
Viewer1 Connection Speed Viewer1 Name Viewer1 Room Name Viewer1 IP Address
Viewer2 Connection Speed Viewer2 Name Viewer2 Room Name Viewer2 IP Address
1350


Configuration File
Image Quality
Image Size
1360

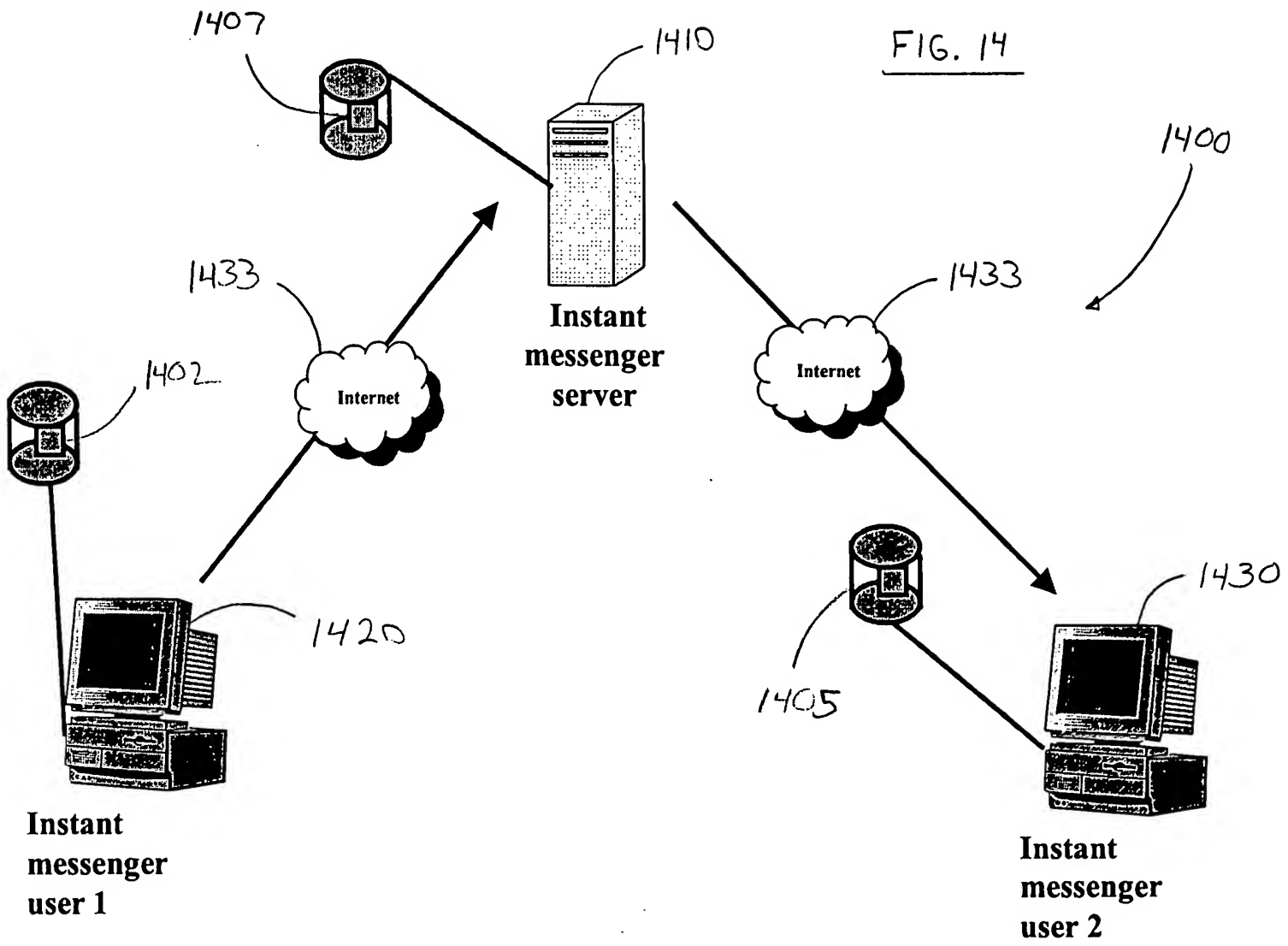
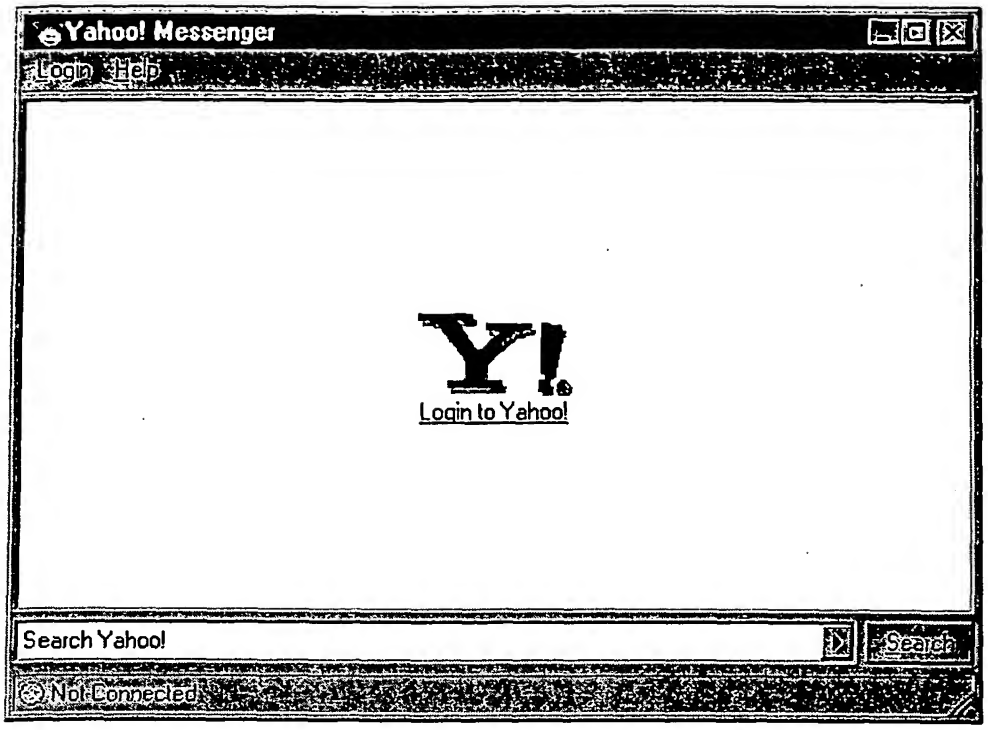

1407
1410
1400
1433
1433
Instant
messenger
server
Internet
Internet
1402
1420
1405
1430
Instant
messenger
user 1
Instant
messenger
user 2

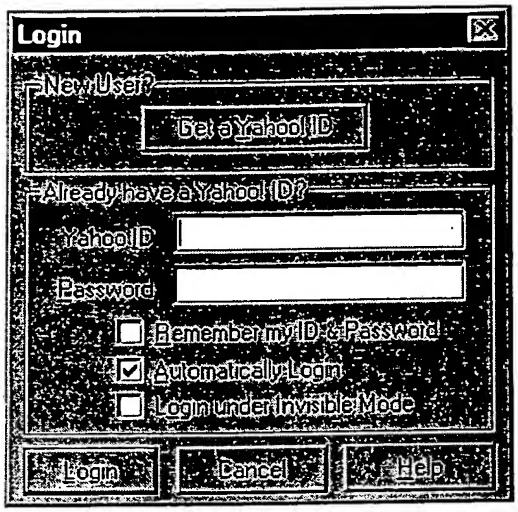
FIG. 14


Yahoo! Messenger
Login
Help
Y!
Login to Yahoo!
Search Yahoo!
Search
Not Connected

1500

FIG. 15

FIG. 16


Login
New User?
Get a Yahoo! ID
Already have a Yahoo! ID?
Yahoo! ID
Password
Remember my ID & Password
Automatically Login
Login under Invisible Mode
Login
Cancel
Help

1600

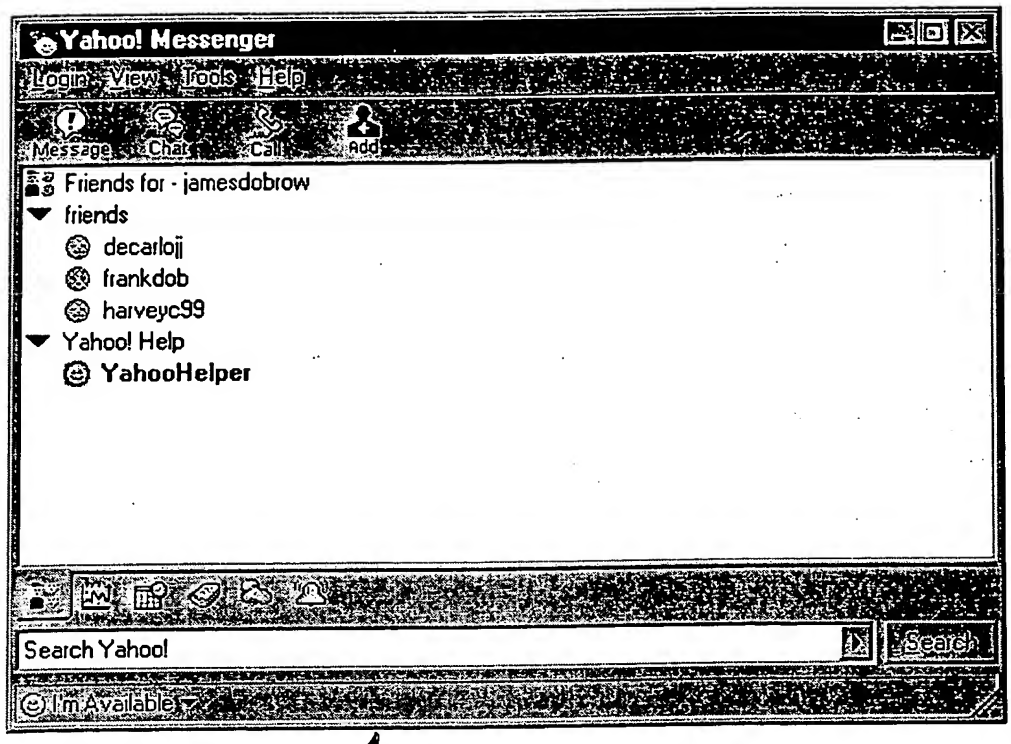

Yahoo! Messenger
Login View Tools Help
Message
Chat
Call
Add
Friends for - jamesdobrow
friends
decarlojj
frankdob
harveyc99
Yahoo! Help
YahooHelper
Search Yahoo!
Search
I'm Available
1700

FIG. 17

FIG. 18

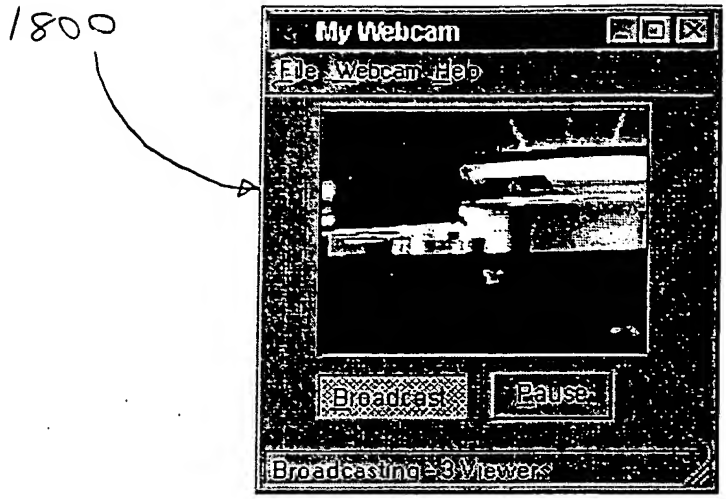

1800
My Webcam
File Webcam Help
Broadcast
Pause
Broadcasting - 3 Viewers

FIG. 19

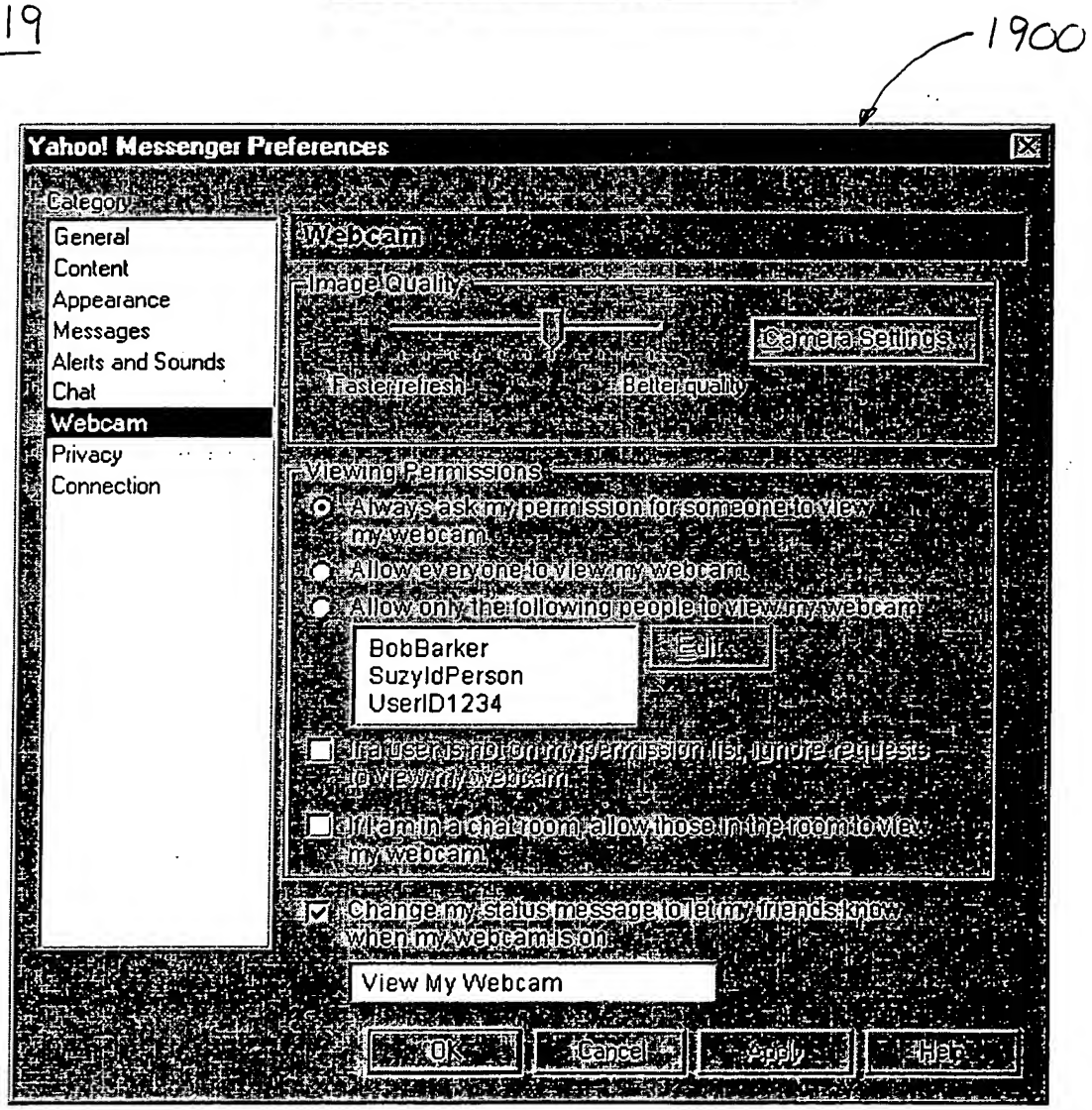
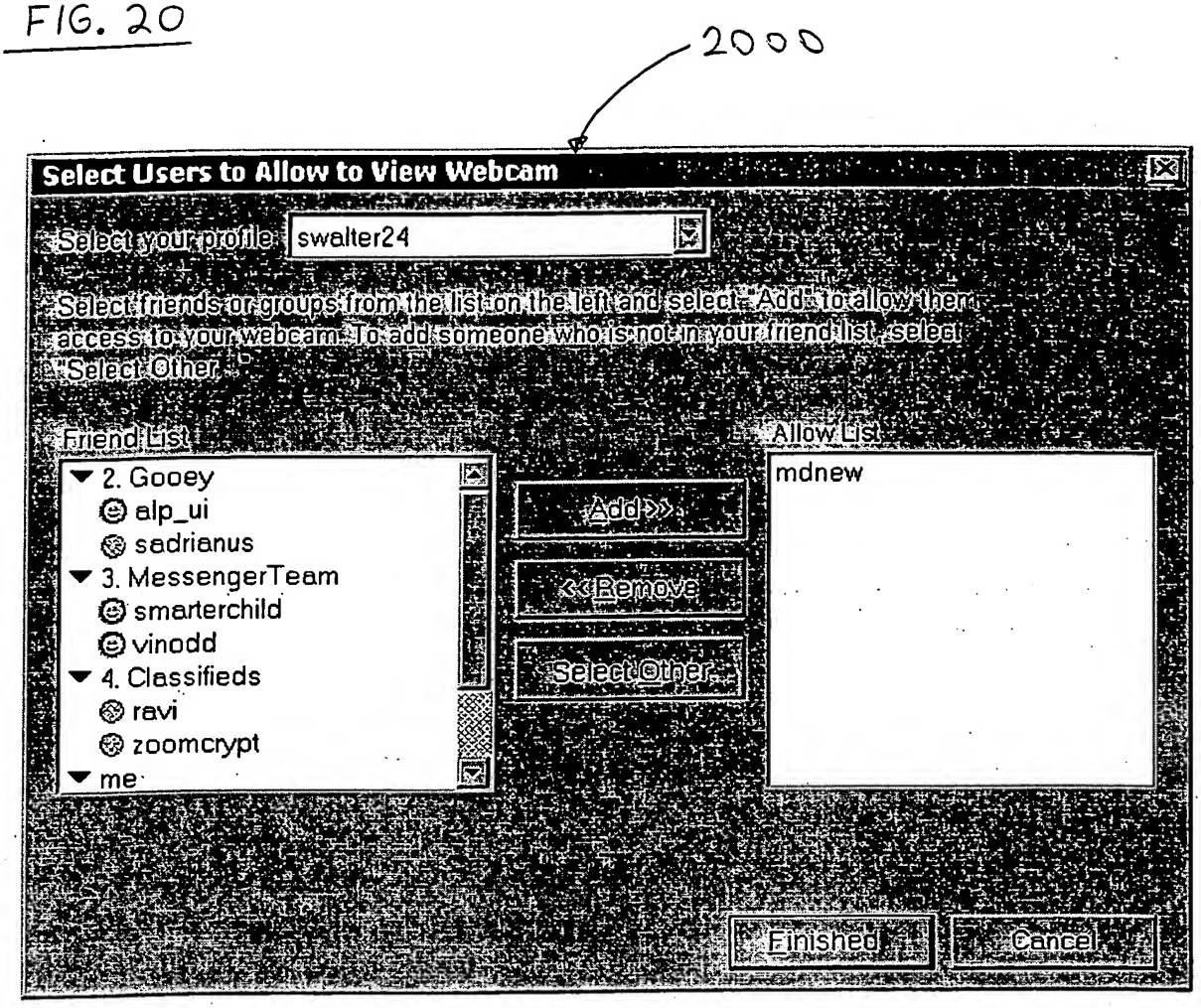

1900
Yahoo! Messenger Preferences
Category
General
Content
Appearance
Messages
Alerts and Sounds
Chat
Webcam
Privacy
Connection
Webcam
Image Quality
Camera Settings...
Faster refresh
Better quality
Viewing Permissions
Always ask my permission for someone to view my webcam.
Allow everyone to view my webcam.
Allow only the following people to view my webcam:
BobBarker
SuzyIdPerson
UserID1234
Edit...
If a user is not on my permission list, ignore requests to view my webcam.
If I am in a chat room, allow those in the room to view my webcam.
Change my status message to let my friends know when my webcam is on.
View My Webcam
OK
Cancel
Apply
Help

FIG. 20


2000
Select Users to Allow to View Webcam
Select your profile:
swalter24
Select friends or groups from the list on the left and select "Add" to allow them access to your webcam. To add someone who is not in your friend list, select "Select Other".
Friend List
2. Gooey
alp_ui
sadrianus
3. MessengerTeam
smarterchild
vinodd
4. Classifieds
ravi
zoomcrypt
me
Add >>
<< Remove
Select Other...
Allow List
mdnew
Finished
Cancel

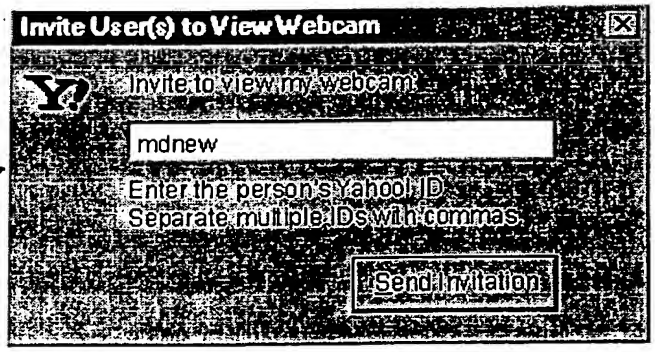
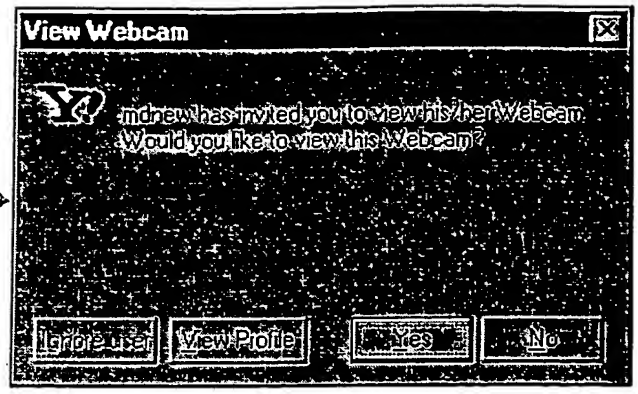

Invite User(s) to View Webcam
Invite to view my webcam!
mdnew
Enter the person's Yahoo! ID.
Separate multiple IDs with commas.
Send Invitation
2100

FIG. 21

FIG. 22

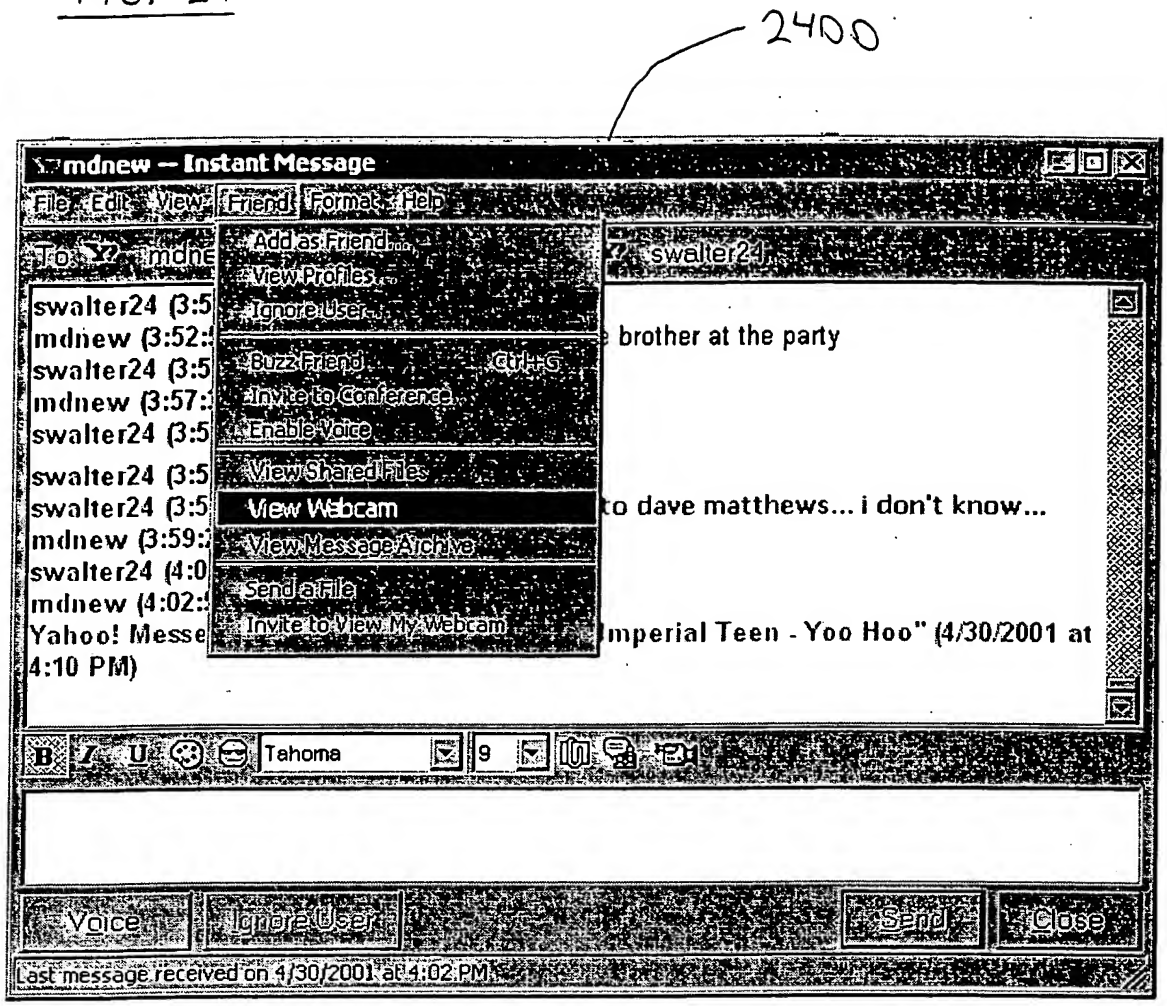


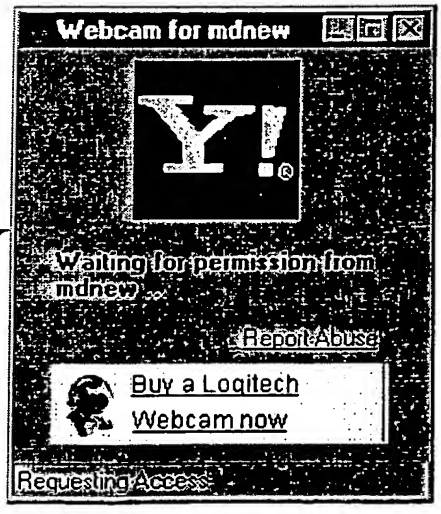
2200

FIG. 23

2300

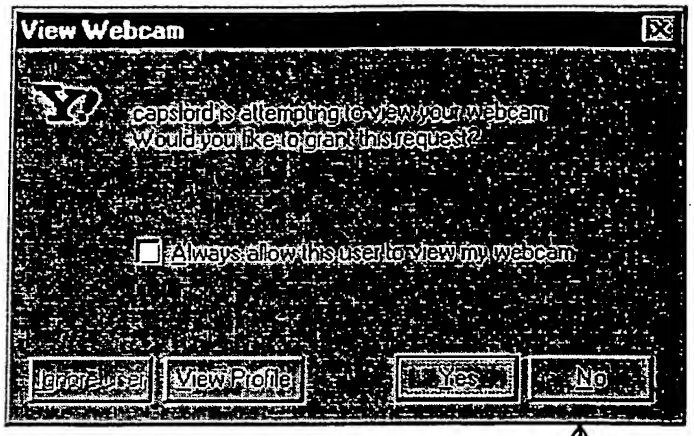
FIG. 24





2500

FIG. 25


View Webcam
capslord is attempting to view your webcam.
Would you like to grant this request?
Always allow this user to view my webcam
Ignore User
View Profile
Yes
No

2600

FIG. 26